

**REMARKS**

***Formal Matters***

Claims 1-13 are all the claims pending in the application. Claims 1 and 9 are amended. Claims 12 and 13 are newly added. Applicant respectfully submits that new claims 12 and 13 are amply supported by the present disclosure, and add no impermissible new matter.

Applicant thanks the Examiner for acknowledging the receipt of priority documents submitted under 35 U.S.C. 119(a)-(d). Applicant also thanks the Examiner for acknowledging the drawings filed on February 27, 2004.

***Claim Rejections Under 35 C.F.R. § 112***

Claims 1 and 9 stand rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement.

The Examiner contends that the limitation “outputting a signal indicating the carrier frequency assigned to the signal to be transmitted” is not disclosed in the specification. Applicant respectfully submits that this limitation is fully supported by the present disclosure, for example, at page 13, where a non-limiting exemplary embodiment is described as follows: “After . . . assigning corresponding frequencies, if possible, the processor unit 3 advises the node of this, and the node may then construct the multiplex and proceed to send it.” Accordingly, Applicant respectfully requests that the Examiner withdraw this objection.

Claims 1 and 9 stand rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite.

The Examiner contends that the limitation “said N sets of frequencies” lacks sufficient antecedent basis.

Claims 1 and 9 are hereby amended to recite “said N sets of optical frequencies.”

Applicant respectfully submits that the language as amended is supported by a sufficient antecedent basis. Accordingly, Applicant respectfully requests that the Examiner withdraw this objection.

***Claim Rejections Under 35 U.S.C. § 103***

**Claims 1, 8, and 9-11**

Claims 1, 8, and 9-11 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jukan et al., “SERVICE SPECIFIC WAVELENGTH ALLOCATION IN QoS-ROUTED NETWORKS” (“Jukan”), in view of U.S. Patent No. 7,046,930 to Kwarai (“Kwarai”), and further in view of U.S. Patent Appl’n Publ’n No. 2002/0101635 to Taketomi (“Taketomi”). Applicant traverses this rejection for at least the following reasons.

Claim 1 requires “associating N sets of optical frequencies of the comb with N respective ranges of consecutive error rate values, each of said sets comprising frequencies generating a mean error rate in the associated range.” The Examiner concedes that Jukan fails to teach or suggest this element of claim 1, but appears to argue that Kwarai does teach this element of claim 1, citing Kwarai at Figs. 1 and 6, col. 3, lines 16-28, col. 4, lines 3-35, and col. 6, lines 4-10.

Kwarai fails to teach or suggest a system in which the “mean error rate” of all frequencies for either low or high QoS are “in the associated range.” First, although Kwarai teaches using frequencies for either low QoS or high QoS, it fails to teach or suggest associating those frequencies with “ranges of consecutive error rate values.” The use of frequencies for low and high QoS in Kwarai is merely a designation of the prospective use of the frequencies, and is not an assignment according to specific ranges of error rate values. In fact, Kwarai assigns

wavelengths in step S1 of Fig. 2, and only later appears to measure error rates of the wavelengths (S3) and in only some instances, exchange only some of the wavelengths.

Moreover, Kawai provides the following explanation of its operation:

A wavelength assignment unit assigns each wavelength to at least one of high Quality-of-Service (QoS) communication and low QoS communication. A wavelength-assignment exchanging unit identifies low quality wavelengths with high BERs being used for the high QoS communication, and unless the low quality wavelengths being used for the high QoS communication outnumber the high quality wavelengths with low BERs being used for the low QoS communication, it exchanges the low quality wavelengths and an equal number of the high quality wavelengths.

(Kawai Abstract) (emphasis added).

As shown in Fig. 2, steps S6 and S7, and explained in the related description, wavelengths are exchanged only when  $SH \leq SL$ . Thus, even if the Examiner contends that the low and high QoS communication designations correspond to the “N respective ranges of consecutive error rate values,” the above-noted portions of Kawai make it clear that the set of frequencies used for low QoS in Kawai have both lower and higher bit error rates (BERs) than those used for high QoS. Switching of frequencies between low and high QoS is, thus, not complete in Kawai, but rather is limited to the case where  $SH \leq SL$ , as shown in Fig. 2. Thus, Kawai fails to teach or suggest “ranges of consecutive error rate values.”

Finally, since no such “range” is defined, there is no range to which the mean error rate of a set of frequencies may be compared to determine whether it is “in the associated range.”

Thus, Jukan, Kawai, and Taketomi, taken as a whole for what they would have meant to one of ordinary skill in the art, fail to teach or suggest each and every element of claim 1. The cited references, therefore, fail to render claim 1 unpatentable. Accordingly, Applicant

respectfully requests that the Examiner withdraw rejection of claim 1 and its dependent claims 8 and 10.

Independent claim 9 recites features similar to those of independent claim 1. Claim 9 is, therefore, also patentable at least for reasons analogous to those presented above regarding claim 1. Accordingly, Applicant respectfully requests that the Examiner withdraw the rejection of claim 9 and its dependent claim 11.

Claims 2-4, and 7

Claims 2-4, and 7 stand rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jukan in view of Kawai and Taketomi, and further in view of U.S. Patent No. 6,278,693 to Aldred et al. (“Aldred”). Applicant traverses this rejection for at least the following reasons.

Claims 2-4 and 7 depend from independent claim 1. The deficiencies of Kawai with respect to claim 1 are demonstrated above. Aldred, moreover, fails to make up for those deficiencies, as Aldred is cited merely for its alleged teaching of certain allegedly typical quality of service parameters. Thus, even when taken as a whole for what they would have indicated to one of ordinary skill in the art at the time of invention, these references fail to render any of claims 2-4 and 7 unpatentable. Accordingly, Applicant respectfully requests that the Examiner withdraw this rejection.

Claim 6

Claim 6 stands rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Jukan in view of Kawai and Taketomi, and further in view of U.S. Patent Appl’n Publ’n No. 2004/0179515 to Kamani et al. (“Kamani”). Applicant traverses this rejection for at least the following reasons.